UJI PATOGENISITAS ISOLAT BACILLUS THRURINGIENSIS DARI BERBAGAI LOKASI HABITAT AIR SAWAH TERHADAP LARVA ANOPHELES ACONITUS.

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Penyakit malaria merupakan salah satu penyakit menular yang disebabkan oleh Plasmodium dan penularannya melalui gigitan nyamuk Anopheles betina. Nyamuk An. aconitus merupakan vektor utama di daerah persawahan di jawa dan Bali. Berbagai upaya penanggulangan malaria kini semakin ditingkatkan, tetapi usaha itu menghadapi hambatan yang serius yaitu semakin meluasnya Plasmodium yang telah resisten terhadap obat anti malaria serta nyamuk Anopheles yang resisten terhadap insektisida.
Berbagai faktor inilah yang menyebabkan para ahli memberikan perhatian yang lebih besar terhadap kegiatan anti larva.Salah satu alternatif cara pengendalian vektor yang semakin mendapat perhatian para ahli adalah pengendalian hayati dengan menggunakan musuh-musuh alami baik berupa predator maupun patogen yang ada di lingkungannya. Bacillus thuringiensis merupakan salah satu bakteri ynag bersifat patogen terhadap larva nyamuk dan larvalalat hitam.
Penelitian ini bertujuan untuk mengisolasi B. thuringiensis dari habitat air sawah di 5 desa yang ada di Kecamatan Tuntang dan Kecamatan Pabelan, Kabupaten Semarang dan Kecamatan Sidoarjo, Kota Salatiga, serta diuji patogenisitasnya terhadap larva An. aconitus insar III. Dua puluh sampel air sawah diisolasi menurut metode Chilcott dan Wigley (1988) dan berhasil ditemikan 21 isolat B. thuringiensis.
Uji patogenisitas 21 isolat terhadap larva An. aconitus instar III menunjukkan bahwa 4 isolat (19,05%) mempunyai patogenisitas > 50%(53,33-100%) dan 17 isolat (80,95%) mempunyai patogenisitas < 50%(0,25%) selama 24 jam perlakuan. Pada 48 jam perlakuan, diperoleh 20 isolat (95,24%) mempunyai patogenisitas > 50% (63,33-100%) dan 1 isolat (95,24%) mempunyai patogenisitas > 50% (63,33-100%) dan 1 isolat (4,76%) mempunyai patogenisitas < 50% (36,67%).

Kata Kunci: Isolat B. Thuringiensis, air sawah, An. aconitus.

BACILLUS THRURINGIENSIS ISOLATE PATHOGENICITY TEST DERIVED FROM VARIOUS LOCATION OF RICE FIELD WATER HABITAT TOWARDS ANOPHELES ACONITUS LARVA.

Abstract

Malaria disease is one of infected that caused by Plasmodium and spread out by female Anopheles mosquito's bite. Anopheles aconitus mosquito is the main vector in rice field area at java and bali. Many kinds of increasing efforts to tackle malaria disease, however, the efforts have faced seriously obstacles that are the increasing of spread Plasmodium which resistant to anti malaria medicine and Anopheles mosquito which resistant to insecticide. Many kinds of this factors cause the experts to pay much attention to anti larva activities. An Alternative way to control the vector that has got much attention from experts is biological control by using natural enemies both in the form of environmental predator or patogen. Bacillus thuringiensis is a pathogen bacterial on mosquito and black flies' larva. This research purposes to isolate B. thuringiensis from rice field water habitat in 5 villages at Tuntang and Pabelan sub districts, Semarang Regency and Sidoarjo sub district, and Salatiga, and its pathogenicity towards insters III An. aconitus. Twenty samples of rice field water have been isolated under Chilcott and Wigley methods (1988) and have already found 21 B. thuringiensis isolates. 21 isolates pathogenicity test towards instars III An. aconitus shows that 4 isolates (19,05%) that have pathogenicity > 50% (53,33-100%) and 17 isolates (80,95%) that have pathogenicity < 50% (0-25%) in a 24 hours treatment. In a 48 hours treatment, has obtained 20 isolates (95,24%) that have pathogenicity < 50% (36,67%). The data anlysis that uses Molineaux formulation shows the decreasin of larva as much 20% for 24 hours treatment and 88,4% for 48 hours treatment. Statistic data that uses One Way Anova Test result in different larva mortality average rate as much-3,99 with p=0.0000, because p<0,05 means that has a significant difference of larva mortality average rate in 24 hours treatment control group. While the test on 48 hours treatment result in the difference of larva mortality average rate as much -17.68 with p=0,0000, because p< 0,05 means that has a significant difference. Thus for 24 hours treatment groups, have obtained the difference of larva mortality average rate as much-13.68 with p=0.0000, because p<0.05 means that has a significant difference.

Keyword : *B.thuringiensis Isolate, rice field water, An. aconitus.*